position approximately conjugate to a pupil of an eye under testing and for determining regions to pass a light beam on the pupil, a projection optical system for projecting a primary index image on a fundus of the eye under testing via the aperture diaphragm, a photodetection optical system for forming a secondary index image on a photoelectric detector via the aperture diaphragm by reflected light beam from the fundus of the eye under testing, and a detecting unit for detecting a light amount intensity distribution of the secondary index image based on a signal from the photoelectric detector. Also, the present invention provides an eye's optical characteristic measuring system as described above, wherein the aperture diaphragm is designed to enable to change an aperture. Further, the present invention provides an eye's optical characteristic measuring system as described above, wherein the aperture diaphragm is designed in such manner that a position of an aperture can be changed. Also, the present invention provides an eye's optical characteristic measuring system as described above, wherein the aperture diaphragm comprises a plurality of aperture plates, and the reflected a light beam can be divided into a plurality of regions by combining the aperture plates. Further, the present invention provides an eye's optical characteristic measuring system as described above, wherein a light amount intensity distribution of a secondary index image is detected for each of the regions, there is provided a display unit for displaying an eye's optical characteristic obtained from the result of the detection, and the display unit displays an

aspect of division of the regions and displays the eye's optical characteristic for each of the divided regions.

BRIEF DESSCRIPTION OF THE DRAWINGS

Fig. 1 is a schematical drawing to show an optical system of an embodiment of the present invention;

Fig. 2 represents drawings to explain an aperture diaphragm to be used in the embodiment;

Fig. 3 is a drawing to show status of regions divided by the aperture diaphragm;

Fig. 4 is a flow chart showing operation of the embodiment of the present invention;

Fig. 5 represents diagrams each showing a light amount intensity distribution obtained by a measurement in the present embodiment. Fig. 5 (A) represents diagrams each showing the light amount intensity distribution on a rear side focal line, and Fig. 5 (B) represents diagrams each showing the light amount intensity distribution on a front side focal line.

Fig. 6 (A) is a diagram showing the light amount intensity distribution on a rear side focal line, and Fig. 6 (B) is a diagram showing 2-dimensional light amount intensity distribution obtained from the light amount intensity distribution on a front side focal line;

Fig. 7 is a drawing to show an aspect of divided regions of a pupil and data of eye's optical characteristic of each of the divided regions;

Fig. 8 represents drawings to explain a index and a corrected image;

Fig. 9 is a drawing to explain estimated PSF during correction of visual acuity;

Fig. 10 is a drawing to explain a simulation image during correction of visual acuity;

Fig. 11 (A), Fig. 11 (B), Fig. 11 (C) and Fig. 11 (D) each represents a diagram of MTF obtained from the measured light amount intensity distribution;

Fig. 12 is a diagram obtained by superimposing the MTF and shown as a single diagram;

Fig. 13 is a drawing to show another aspect of division;

Fig. 14 represents drawings to explain aperture diaphragm to be used in the above aspect of division; and

Fig. 15 is a drawing to explain another type of aperture diaphragm.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Description will be given below on an embodiment of the present invention.

Referring to Fig. 1, description will be given on an optical system of an embodiment of the present invention;

In the figure, a reference numeral 1 denotes an eye under testing, a reference numeral 2 denotes a projection optical system, and a reference numeral 3 denotes a photodetection optical system.

The projection optical system 2 comprises a light source 5, a projection lens 6 for converging a projected light beam emitted from the light source 5, a half-mirror 7 arranged on an optical axis of the projection lens 6, a polarization beam splitter 8 for reflecting the projected laser beam